

HORAKOVA, Zdena; HACH, Vladimír

Biological evaluation of the new local anesthetics derived from
xylocaine. Cesk. farm. 4 no.5:234-240 June 55.

1. Z Vyzkumneho ustavu pro farmacii a biochemii, Praha.
(ANESTHETICS, LOCAL
xylocaine deriv., biol. evaluation)

BOROVICKA, Milos; HACH, Vladimir

Natural substances used as drugs; progress during 1954.
Cesk. farm. 4 no.9:478-488 Nov 55.

1. Z Vyzkumneho ustavu pro farmacii a biochemii v Praze.
(BIOLOGICAL PRODUCTS,
pharmacol., review)

~~HLA~~ Hach, Vc.

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26840.

Author : Protiva, Miroslav; Simák, Vladislav,
Hach, Vladimír; Exner, Otto.

Inst :
Title : Local Anesthetics. III. Sulfonium Salts.

Orig Pub: Chem listy, 1955, 49, No. 2, 222 - 226.

Abstract: With a view to compare the local anesthetic activity of analogous nitrous and sulfurous compounds, the following substances were produced: of the novocaine type - 2-methylmercaptoethyl esters of n-amine (I), n-butoxybenzoic (II), n-metoxycinnamic (III) and n-metoxythiocinnamic (IV) acids; of the xylocaine type - N-(methylmercaptoacetyl)-2,4-xylidine (V),

Card 1/7

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810011-6"

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26840.

N-(methylmercaptoacetyl)-2-methyl-5,6,7,8-tetrahydro-1-naphthylamine (VI); of the per-caine type - 2-methylmercaptoethylamides of 2-chlorocinchonine acid (VII) and 2-butoxycinchonine acid (VIII), as well as iodomethylates of I to VIII. Iodomethylate of II has the same activity as novocaine, the activity of iodomethylate of III is 20% of that of novocaine. The analogy of the physiological activity of sulfonium and ammonium salts extends also on the local anesthetics. Iodomethylate of VIII has no local anesthetic action. The mixture of 8.25 g of ethyl esters of n-aminobenzoic acid, 16 g of 2-methylmercaptoethanol (IX) and 0.05 g of Na was slowly heated with distilling

Card 2/7

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic
Chemistry.

E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26841.

chlorohydrate of II and LiAlH_4 , yield 47%,
melting point 98-100° (from petroleum ether).
When boiled with HBr (acid, 1 : 3), V splits
producing piperidine bromohydrate, melting point
230-232° (from alcohol). Chlorohydrate of VI,
melting point 205° (from alcohol-ether) was re-
ceived from chlorohydrate of III similarly to
IV, yield 74%. The mixture of the solution of
IV (separated with soda from 5 g of chlorohydrate)
in 75 ml of CHCl_3 and of the solution of
3 g of VII in 75 ml of CHCl_3 was distilled dry
in air, chlorohydrate of VIII, melting point
164-165° (from alcohol-ether) was in the residue.
Solution of 4 g of V and 3 g of VII in 25 ml
of pyridine was heated (100°, 3 min.), 48 hours

Card 3/5

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810011-6"

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic
Chemistry.

E-2

Abs Jour: Ref Zhur - Khimiya, No. 8, 1957, 26841.

later it was decomposed with the solution of
 NaHCO_3 , the precipitate was suspended in ether
and converted by HCl (gas) into chlorohydrate
of IX, melting point 182-183° (from alcohol-
ether). Chlorohydrate of X, melting point 206-
207° (from alcohol-ether) was obtained from VI
and VII. 3.1 g of chlorohydrate of VIII in
300 ml of alcohol was hydrogenated over 0.4 g
of PtO_2 , alcohol was distilled off, the base
was separated by soda solution and extracted
by ether, XI was obtained, yield 90%, melting
point 140-141° (from alcohol-petroleum ether).
XII was produced from IX in the same way, yield
75%, melting point 139-141° (from alcohol-
petroleum ether), and XIII from X, yield 60%,

Card 4/5

HORAKOVA, Z.; HACH, V.; ROTH, Z.; MATOUSKOVA-SMOLKOVA, H.

Local anesthetic action and certain remote pharmacological properties of alkoxy derivative of xylocaine. Cesk. fysiол. 5 no.4:460-470 1956.

1. Vyskumny ustav pro Farmacii a Biochemii, Praha.
(LIDOCAINE, related compounds,
alkoxy deriv., local anesth. & pharmacol. (Cz))

HACH, V.

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and H-17
Their Application. Medicinal Substances. Vitamins.
Antibiotics.

Abs Jour : Ref Zhur - Khimiya, No 17, 1958, 58407

Author : Hach, V., Koppova, E.

Inst : -

Title : On the Question of the Chemical Properties of 2-Diethyl-
lamineethylamid of n-aminobenzoic Acid.

Orig Pub : Ceskosl. farmac., 1956, 5, No 10, 582-583.

Abstract : The 2-diethylaminethylamid of n-aminobenzoic acid (I)
is obtained by the reaction of n-nitrobenzol-chloride
(II) with 2-diethylaminethylamine (III). 24 g of III
are dissolved (boiling point 143-149°) in 200 ml of
dry C₆H₆ and, during cooling and blending, a solution
is added of 37 g of II in 200 ml of C₆H₆. After 15
hours at 20°, 54 g (90%) of monochlorohydrate 2-diethyl-
laminethyl amide of n-nitrobenzoic acid (IV) is extrac-
ted;

Card 1/2

- 44 -

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and H-17
APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810011-6"
Their Application. Medicinal Substances. Vitamins.
Antibiotics.

Abs Jour : Ref Zhur - Khimiya, No 17, 1958, 58407

melting point 152-156°; after recrystallization from
absolute alcohol, 163-164°; base IV, melting point 54°
(from petroleum ether). After two crystallizations 18
g (66%) of monochlorohydrate I is obtained by reduction
of 30.1 g of IV with 0.3 PtO₂; melting point 165-169°,
base, melting 47-48° (from benzol-petroleum ether).
The salts of base IV are described: picrate, melting
point 206°; oxalate, melting point 155°; succinate, mel-
ting point 123°; bromhydrate, melting point 149°;
n-nitrobenzoate, melting point 133°. Salts of I: pica-
te, melting point 148°, dichlorohydrate, melting point
175°; monohydrate of dibromhydrate, melting point 200°.

Card 2/2

HACH, VLADIMIR

Med Progress in the field of synthetic medicinal in the year
1955. Vladimír Hach and Erika Hach (Research Inst.
Pharmacy and Biochemistry, Prague). *Pharmazie* 11, 697-
715 (1956).—A review with 658 references. G. M. H.

2

HACH-V.

md ✓ Investigations of local anesthetics with protracted effects.
III. The effect of a simple quaternary salt on the duration of local anesthetics. V. Hach and Z. Horáková (Forschungsinst. Pharm. u. Biochem., Prague). *Experimentia* 12, 112-14 (1956) (in German).—Addn. of simple quaternary salts such as $(Et_4N)^+Br^-$ and $[HOCH_2CH_2N(C_2H_5)_3]^+Br^-$ to solns. of procaine, xylocaine, cinchocaine, and tetracaine causes a prolongation of the time of complete infiltration anesthesia as indicated by the rabbit cornea test.

D. S. Farner.

2

HACH, VLADIMIR

Local anesthetics. V. Alkyl derivatives of 2-chloro-
analogues. Vladimir Hach, Zdeněk Horáček, and
Haylová (Přehrát, and Bolechov, *Chem. Zvesti*,
Chem. Zvesti 50, 952-60, 1956, et al.). The
largement of the lipophilic part of the molecule, i.e.,
an alkyl residue increases considerably the anes-
thetic activity of amide compounds. *1,4-Et(C₂H₅)C₆H₄NH₂* (I)
obtained in 30% yield by reducing 100 g. of *1,4-Et(C₂H₅)C₆H₄NO₂*
80-90° with Al shavings in dil. H₂SO₄, treating the mixt.
with 150 g. tartaric acid, adjusting the pH to 8.5, and ex-
tracting with Et₂O, m. 171° (from EtOH), 30 g. of which with 60 ml.
Ac₂O yielded 35 g. *N-Ac* deriv. (II), m. 172° (from EtOH).
II (50 g.) refluxed 3 hrs. with 25 g. EtBr and EtOH (from
4.0 g. Na and 300 ml. abs. EtOH) and aq. NaOH, washed
water gives 31 g. *2,4-Et(EtO)C₆H₃NH₂* (III), m. 115°
(from EtOH). III boiled 2.5 hrs. with 30% H₂O₂ and
alk. with 20% NaOH, and extd. with Et₂O, yielded 10 g. *1,4-*
Et(EtO)C₆H₄NH₂, b.p. 110°. Similarly was prepd. from
8.9 g. II, 6.8 g. EtBr, and 1.1 g. Na in 150 ml.
EtOH 0.5 g. *4-Nat* analog of III, m. 121° from EtOH,
which gave 80% *2,4-Et(EtO)C₆H₃NH₂*, b.p. 115°. *1,4-Et-*
(H₂N)C₆H₄Ph.HCl, obtained in 9% yield by reduction of
20 g. *o*-nitrobiphenyl, m. 229-31° (from EtOH-Et₂O),
and gave the unstable free base, m. 117°. EtOH from 0.60
g. Na in 100 ml. EtOH boiled 8 hrs. with 35 g. *4-(4-*
AcNHC₆H₄)C₆H₄OH and 4.0 g. EtBr gave 5 g. *4-(4-AcNHC₆H₄-*
C₆H₄)C₆H₄OBu (IV), m. 190° (from EtOH), treated by
boiling 6 g. with 30 g. NaOH, 18 ml. water, and 5 ml.
(CH₃OH)₂ 24 hrs. and pptg. with water, m. 117°. *1,4-Et-*
C₆H₄C₆H₄OBu, m. 57 (lit. m. 57-58). Acetamide: 2-
hydroxy-5,6,7,8-tetrahydronaphthalene (5.75 g.) (prepd.
according to Schroeter, C.A. 16, 1735) treated with EtOH
from 0.53 g. Na in 90 ml. EtOH and 3.5 g. EtBr, heated 2

1/3

Hugh Vladimir - Hong Kong

hrs. on a steam bath, and poured into water gave 4.5 g. 4-BuO analog (V), m. 174°, which, sapon. with NaOH, and the product extd. with Et₂O and pptd. with Et₂O-HCl yielded 1-amino-4-butoxy-6,7,8-trihydroxyphenyl HCl salt, m. 202° (from EtOH-Et₂O). 1,4-AcNHCC₆H₄OBu (VI), m. 104°, was obtained in 32-g. yield by treating 20 g. 4,1-AcNHCC₆H₄OH with 3.2 g. Na and 20 g. BuBr in 250 ml. EtOH. Nitration of 20 g. 1-C₆H₄OBu with 30 g. 37% HNO₃ 4 hrs. at 60° yielded 7 g. 1-(4-N-C₆H₄)OBu (VII), m. 44° (from EtOH); the 1-H₂N analog, obtained by alk. sapon. of VI or by hydrogenation of VII with Raney Ni, is an extremely unstable liquid, b.p. 162-3°, characterized as the picrate, m. 165°. 1,6-AcNHCC₆H₄OBu (VIII), m. 103°, obtained in 17-g. yield from 18 g. 1,6-AcNHCC₆H₄OH, 12.3 g. BuBr, and EtONa, gave on alk. sapon. the 1-H₂N compound, m. 88°. 4-Acetylthymol phenyl cyclohexyl ether, n. 151° (from EtOH), obtained in 5-g. yield from 37.6 g. p-AcNHCC₆H₄OH, 43.1 g. cyclohexyl bromide, and 5.8 g. Na in 300 ml. EtOH, gave on sapon. and treatment of the free base with Et₂O-HCl 4 g. 4-phenyl phenyl cyclohexyl ether HCl salt, m. 100° (from EtOH-Et₂O). p-H₂NCC₆H₄OPh, obtained in 90% yield by hydrogenating p-O₂NC₆H₄OPh at 25° and 160 atm. in EtOH with Raney Ni, m. 88-4° (from hot water). Similarly was prepd. 4-H₂NCC₆H₄Ph, m. 61°. 6-Acetylthymol (57 g.) with 38 g. BuBr and 6.3 g. Na in EtOH yielded 65 g. 4-butoxy-6-acetylthymol, m. 105° (from 75% EtOH), sapon. to the unstable 6-H₂N compound. A soln. of EtONa from 11.5 g. Na in 300 ml. EtOH treated with 60 g. p-BuCC₆H₄OH and 68 g. BuBr, heated 6 hrs. on a steam bath, the EtOH distd. and the residue poured into 15% NaOH and extd. with Et₂O yielded p-BuCC₆H₄OBu, m. 133-45°. 2-Nitro-3,5-dimethylphenyl cyclohexyl ether, obtained by heating 30 hrs. to 180° 10.2 g. 3,5,2-Me₂(O₂N)C₆H₃OH, 9 g. cyclohexyl bromide, and 15 ml. cyclohexanol in a sealed

2/3

Hach, Vladimir - Hachkov...

tube, extg. with Et₂O, and fractionating in vacuo, b.p. 146-5°.
The following RNHCOCH₂Cl (IX) were prepd. in 70-90%
yield (cf. C.A. 49: 204b) (R and m.p. given): 2,4-Et(EtO)-
C₆H₃, 137°; 2,4-Et(BuO)C₆H₃, 132°; 4-(t-BuOC₆H₄)C₆H₃,
201°; 4-butoxy-5,6,7,8-tetrahydro-1-naphthyl, 178°; 4,1-
BuOC₆H₄, 180°; 6,1-3,4-C₆H₃, 105°; 4-cyclohexyloxy-
phenyl, 130°; 4-PhOC₆H₄, 90°; 4-PhC₆H₄, 176°; 2,5,4-Me-
(Me₂CH)(BuO)C₆H₃, 137°. Boiling the IX with 3 mols
Et₂NH 6 hrs. in C₆H₆ gave the corresponding RNHCOCH₂-
NEt₂ (R given): 2,4-Et(EtO)C₆H₃, b.p. 180-3° (HCl salt,
m. 167°); 2,4-Et(BuO)C₆H₃, b.p. 210° (HCl salt, m.
135°); 2,4-Ph(BuO)C₆H₃ (picrate, m. 162°); 4-(t-BuOC₆H₄)-

C₆H₃, m. 100° (picrate, m. 143°); 4-butoxy-5,6,7,8-
tetrahydro-1-naphthyl (HCl salt, m. 129°); 4,1-BuOC₆H₄,
b.p. 210-15° (HCl salt, m. 145°); 6,1-BuOC₆H₄ (HCl
salt, m. 170°); 4-phenyl cyclohexyl ether (HCl salt, m.
150°); 4-PhC₆H₄ (HCl salt, m. 180°); 2,5,4-Me(Me₂N)
(BuO)C₆H₃, m. 57°, b.p. 145-50° (HCl salt, m. 145°).

L. L. Orbach

3/3

HACH, V.

4 Natural substances as medicinal - progress in the year
1955. M. Borovička and V. Hach (Novosilská 3, Prague).
Pharmazie 12, 65-78(1957).—A review with 288 references.
G. M. Hachek

Hack, V.

Diethyl 1,4-dithiane-2,5-dithiolate

Pharmacodynamically interesting aminoalkyl derivatives of acetals and phosphorothioates. H. Prokeš, M. Dorovická, V. Hack, Z. Votava, J. Štámková, and Z. Horáková (Forskuningsl. Pharm. and Biotech., Prague). *Experientia* 13, 291-2 (1957) (in German).--Hortacridan (I) (hydrochloride, m. 188-90°) was obtained by the reduction and simultaneous hydrogenolysis of 2-aminobenzophenone-2-carboxylic acid lactam with LiAlH_4 . Homophenothiazine (II) (m. 115°; hydrochloride, m. 173°) was obtained by cyclizing 2'-amino-2-methoxycarbonyl-5-phenylthiophene (m. 95-6°; picrate, m. 167°), obtained from the corresponding nitro ester, and reducing the resulting lactam (m. 230-22°) with LiAlH_4 . I and II were made to react with substituted aminoalkyl chlorides in the presence of NaH in toluene or xylene to give the following: *N*-(dimethylaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (III), hydrochloride, m. 200°; *N*-(diethylaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (IV), dihydrochloride, m. 161°; *N*-(piperidinoaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (V), dihydrochloride, m. 209°; *N*-(dimethylaminopropyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (VI), hydrochloride, m. 183°; *N*-(dimethylaminoethyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (VII), hydrochloride, m. 208°; *N*-(piperidinoaminoethyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (VIII), succinate, m. 151°; *N*-(dimethylaminopropyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (IX), hydrobromide, m. 157°. VI has antihistaminic activity 500 times as great as that of 2-(diphenylmethoxy)-*N,N*-dimethylethylamine-HCl (X). The antihistaminic activities of III and VII are 10 times that of X. The local anesthetic effects (infiltration) of III-IX all exceed that of procaine; V and VII being the most effective. The local anesthetic effects (surface) of III-VII all exceed that of cocaine; VIII and IV being the most effective.

D. S. Palmer

HACH, VLADIMIR

V Local anesthetics. VI. Some basic amides. Vladimír Hach and Zdena Horáková (Pharm. Biochem. Res. Inst., Prague). *Chem. listy* 51, 332-3 (1957); cf. C.A. 51, 1053a. —Prepns. were described for p -RCONHC₆H₄O(CH₂)₂NEt₂ (I), p -RCONHC₆H₄CH₂NEt₂ (II), and p -RCONHC₆H₄CONH(CH₂)₂NEt₂ (III) which did not show any significant biol. activity. I (R = cyclohexyl) (Ia) was obtained in 10% yield by treating at 10-25° 10.4 g. p -H₂NC₆H₄O(CH₂)₂NEt₂ with 18 g. C₆H₅COCl (IV) in C₆H₆, m. 105° (from ligroine); Ia.HCl m. 189°. Similarly were obtained I.HCl (R = Me) (Ib), m. 212°; I.HCl (R = Et) (Ic), m. 183°, and I.HCl (R = Pr) (Id), m. 173°. p -H₂NC₆H₄CH₂CONMe₂ (V) was obtained in 10.5% yield by hydrogenating 23 g. p -ONC₆H₄CH₂CONMe₂ with PtO₂ in EtOH, m. 68° (from EtOH). Reduction of V with LiAlH₄ gave 76% p -H₂NC₆H₄(CH₂)₂NEt₂ (VI), b.p. 146-2°. Treatment of 3 g. VI with 3 g. IV in C₆H₆ gave 3.5 g. II (R = cyclohexyl) (IIa), m. 107° (IIa.HCl, m. 191°); II (R = Me) (IIb) (IIb.HCl, m. 227°; IIb picrate, m. 212°); II (R = Et) (IIc) (IIc.HCl, m. 200°; IIc picrate, m. 191°). III, obtained in 2.1% yield from 4.8 g. p -H₂NC₆H₄CONH(CH₂)₂NEt₂ and 1.8 g. EtCOCl, m. 163° (from C₆H₆).
L. J. Urbánek

HACH, V., and others.

"Local anesthetics. VII. Analogs of diethylaminoacetylmepidine." In German.

p. 1887. (Sbornik Chekhoslovatskikh Khimicheskikh Rabot, Vol. 22, No. 6, Dec. 1957, Praha, Czechoslovakia)

P 547 (Institute of Applied Physics - Czechoslovak Academy of Sciences)
Vol. 51, No. 3, March 1957.

Monthly index of East European Accession (EEAI) LC, Vol. 7, No. 8, August 1958

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic G-2
Chemistry.

Abs Jour: Ref Zhur-Khimiya, 23, 1958, 77702.

Author : Hach, V. and Protiva, M.
Inst : Not given.
Title : Antihistamines. XLII. Synthesis of 1-aza-4-thia-2,3-5,6-dibenzocycloheptadiene (homophenothiazine).

Orig:Pub: Chem Listy, 51, No 10, 1909-1914 (1957) (in Czech).

Abstract: When the methyl ester of thiosalicylic acid is added to a solution of CH_3ONa in CH_3OH and the mixture is heated for 15 hrs with $\text{o-NO}_2\text{C}_6\text{H}_4\text{Cl}$ (50°), the methyl ester of 2'-nitrodiphenylsulfodicarboxylic-2 acid (I) is obtained, yield 55%, mp $92-93^\circ$. The reduction of a methanolic solution of I over Pt (from PtO_2) or over Raney nickel

Card 1/4

33

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000617810011-6
CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic G-2
Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77702.

Abstract: at normal pressures gives the methyl ester of 2'-aminodiphenylsulfonic-2-carboxylic acid (II), yield 100%, mp $95-96^\circ$ (from 75% alc); picrate (P) mp 167° (from alc). Heating II for 7 hrs at $200-220^\circ$ gives the lactam of II (III), yield 86%, mp $239-242^\circ$ (evap; from aqueous alc). The reduction of III by refluxing for 30 hrs with LiAlH_4 in ether gives 1-aza-4-thia-2,3:5,6-dibenzocycloheptadiene (homophenothiazine) (IV), mp 115° (from alc). Refluxing IV for 10 hrs with NaNH_2 and $\text{ClCH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ in xylene gives N-(2-dimethylaminoethyl)-IV (V), yield 5% bp $160-165^\circ/0.5\text{mm}$; hydrochloride mp 206° (from ether-alc); P mp 156° (from alc): iodomethylate (IM) mp 195° (from ether-

Card 2/4

HACH, VL.

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64393.

Author : Hach Vladimir, Protiva Miroslav

Inst :

Title : Synthetic Research in the Area of Estrogenic Hormones.
XVI. Synthesis of Hydrindandione - 1.4

Orig Pub: Chem. listy, 1957, 51, No 11, 2099-2108.

Abstract: Hydrindandione-1.4 (I) is synthesized from o-nitrohydrocinnamic acid (II) by the following manner. The cyclization of acid chloride II with the application of $AlCl_3$ in CS_2 leads to 4-nitroindanone (III), yield 62%, melting point 103° (from petroleum ether or alcohol): oxime, melting point 204° (from alcohol). During hydrogenation of III over PtO_2 or over skeleton Ni in alcohol, 4-amino-indanone is formed, yield in the latter case

Card : 1/8

10

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64393.

95%, melting point $123-124^\circ$ (from bz1.), monodiazotization and subsequent heating (15 minutes at 40°) lead to 4-oxyindanone (IV), yield 83%, melting point 240° (from aqueous alcohol); oxime (V), melting point 186° (from aqueous alcohol) IV is also synthesized from dehydrocoumarin by a method described (RZhKhim, 1955, 37283), yield 42%. During hydrogenation of V over Pt (from PtO_2) in CH_3COOH , there is formed 1-amino-cis-hydrindan [yield 21.3%, boiling point $60-62^\circ/0.5$ mm; picrate, melting point $182-184^\circ$ (from alcohol); N-benzoyl derivative, melting point $182-183^\circ$ (from 50% alcohol)] and 1-amino-cis(?) -hydrindanol (VI) [yield 32%, boiling point $122-125^\circ/0.5$ mm, melting point $75-77^\circ$ (from petroleum ether)]. Monodiazotization of VI in 25% CH_3COOH and subsequent heating (2.5 hours in

Card : 2/8

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64393.

is synthesized, which with malonic ether in C_6H_5N in the presence of piperidine give o-isopropoxycinnamic acid [yield 64%, melting point 125° (from 30% alcohol)] reduced by an amalgam of Na to VIII, yield 78%, boiling point 135-140°/0.3 mm, melting point 51°/(from water). The following transformations were also realized. The reduction of VII $LiAlH_4$ leads to 3-(o-methoxyphenyl)-propanol (yield 60%, boiling point 117-120°/0.5 mm), which with PBr_3 gives 3-(o-methoxyphenyl)-propylbromide, yield 58%, boiling point 85-89°/0.5 mm; the latter with KCN forms 3-(o-methoxyphenyl)-butyronitrile (yield 74%, boiling point 145-155°/12-14 mm), converted by saponification into 3-(o-methoxyphenyl)-butyric acid (yield 73%, boiling point 145-147°/0.3 mm, melting point 40°), which during cyclization under the action

Card : 6/8

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

APPROVED FOR RELEASE: 09/17/2001 58, 64393 CIA-RDP86-00513R000617810011-6"

of $POCl_3$ in CCl_4 was transformed into 5-methoxytetralone (XII), yield 52%, melting point 88-89°. The action of SO_2Cl_2 on XII (10 minutes, at temperature of 20°) leads to 2,2-dichloro-5-methoxytetralone, melting point 100° (from petroleum ether) and the processing of XII Br_2 into CH_3COOH (one hour at temperature 20°) leads to 2-brom-5-methoxytetralone, melting point 93° (from petroleum ether). The action of SO_2Cl_2 on decalindione-1.5 leads to dichloride, which is 2,2-dichlorodecalindione-1.5 or 2,6-dichlorodecalindione-1.5, yield 37%, melting point 153-154° (from bz1. petroleum ether). By the interaction of 2-acetoxycyclohexanone with diethyloxalate in C_6H_6 in the presence of dry C_2H_5ONa (7 hours, at a tempera-

Card : 7/8

13

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167.

action of SOCl_2 , yield 92%, boil. p. 85 to 88°/20 mm. The tryptamine salt of I was synthesized of tryptamine (III) and I, yield 88%, melt. p. 181 to 182° (from alc.), and converted into tryptamid of I (IV) by heating it 45 min. to 190 to 200°, little yield, melt. p. 79 to 81° (from benzene). IV was obtained with a considerably greater yield (85%) of III and II by cooling them in C_6H_6 in the presence of 4%-ual aqueous NaOH solution. A solid impure dihydro base was prepared by boiling 3.9 g of IV with 10 ml of POCl_3 in 100 ml of C_6H_6 in the duration of 2 hours, evaporating in vacuo, dissolution in 60 ml of 75%-ual CH_3COOH , and precipita-

Card : 2/11

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167.

tion by NH_4OH ; that base was reduced with 12 g of Na in 120 ml of alcohol to 1-cyclohexylmethyl-1,2,3,4-tetrahydronorharman (V) (yield 3.6 g); hydrochloride, melt. p. 245 to 246° (from alc.); metasulfonate, melt. p. 262 to 265° (from aqu. alc.). Ethyl ester (EE) of 1-oxy-4-methoxycyclohexylacetic acid was synthesized of 4-methoxycyclohexanone (VI) and $\text{CH}_3\text{Br}-\text{COOC}_2\text{H}_5$ in C_6H_6 by the reaction of Reformatskiy, yield 64%, boil. p. 110 to 111°/1.6 mm; it produced the EE of 4-methoxycyclohexenylacetic acid (VII) after 4 hours of action of SOCl_2 in pyridine in an ice bath, boil. p. 120°/14 mm. 4-methoxycyclohexenylacetic acid (VIII) was prepared by 12 hour boiling of VII with

Card : 3/11

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167;

KOH solution in alcohol, yield 85%, boil. p. 150 to 152°/2 mm, melt. p. 27 to 30°. Hydrogenation of VII on PtO₂ in CH₃COOH resulted in EE of 4-methoxycyclohexylacetic acid (IX), boil. p. 120 to 122°/20 mm. By hydrogenation of the aqueous solution of Na salt of VIII on Raney's nickel under 105 atm. at 80 to 90°, or by 12 hour boiling of IX with KOH solution in alcohol, cis-(?)-4-methoxycyclohexylacetic acid was produced, yield 80%, boil. p. 151 to 152°/3 mm, melt. p. 19 to 22°; S-benzylisothiouronic salt, melt. p. 145 to 146° (from alc.). 4-methoxycyclohexylacetyl chloride, boil. p. 108 to 111°/10 mm, synthesized of the

Card : 4/11

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167.

above mentioned acid with a yield of 94% by 3 hours of seasoning and 1 hour of boiling with SOCl_2 was converted into tryptamide of 4-methoxycyclohexylacetic acid similarly to II by reducing with III, yield 56%, melt. p. 102° (from benzene); that tryptamide was cyclized similarly to IV to the corresponding dihydro base, by the reduction of which with Na in alcohol 1-(4-methoxy-cyclohexyl)-methyl-1,2,3,4-tetrahydronorharman (X) was prepared, yield 82%; hydrochloride, melt. p. 245 to 247° (dissociates, from aqu. alc.); methanesulfonate, melt. p. 254 to 255° (from aq. alc.). 4-methoxycyclohexenylacetone nitryl (XI), boil. p. 118 to $121^\circ/10$ mm, was prepared of VII and cyanacetic acid in C_6H_6 in the presence

Card : 5/11

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167.

solution with dilute HCl, and evaporation of the acid solution in vacuo, melt. p. 231 to 232° (from iso-C₃H₇OH + alc.); picrate, melt. p. 190° (from alc.). When the reaction mixture had been decomposed with water after the reduction of XI and the ether layer, dried with the application of K₂CO₃, had been distilled, a base (XV), boil. p. 104 to 106/10mm, was obtained, the hydrochloride of which is of the same composition as XIV, and the melt. p. is 162° (from acetone + alc. + eth.); picrate, melt. p. 148 to 149° (from alc.). It is surmised that a change of the position of the double bond takes place at the distillation of the base of XIV and that XV is 2-(4-methoxycyclohexylidene)-ethylamine. The esterification of the

Card : 7/11

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810011-6"

CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and
Their Synthetic Analogues.

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74167.

β-methoxyadipinic acid in the mixture toluene-alcohol in the presence of H₂SO₄ at a simultaneous azeotropic removal of water leads to ethyl ester of β-methoxyadipinic acid, yield 80%, boil. p. 118 to 120°/2.5 mm, n_D²⁰ = 1.4336. By the reduction of EE of 4-oxyphenylacetic acid in alcohol on Raney's nickel in the presence of C₂H₅ONa under 125 atm and at 150 to 160°, EE of 4-oxy-cyclohexylacetic acid was obtained, yield 61%, boil. p. 115 to 116°/0.4 mm, which was saponified by 2 hour boiling with NaOH solution in aqueous alcohol to a mixture of stereoisomeric 4-oxy-cyclohexylacetic acids, yield 94%, melt. p. 110 to 120° (raw). 4-oxy-cyclohexylacetic acid was prepared

Card : 8/11

HACH, V

M. Borovicka and V. Hach, "Naturstoffe als Arzneimittel Fortschritte im Jahre 1956," Die Pharmazie (Berlin), 13/2, February 1958, pp. 65-72.

Received on 26 June 1957.

Dr. M. Borovicka's address is cited as Research Institute for Pharmacy and Biochemistry, Prag XII, Kourimska 17. The authors express their thanks to their colleagues, Dr. J. O. Jilek and J. Pomykacek, for their assistance in the preparation of this paper.

Country : Czechoslovakia G
 Category : Organic Chemistry. Synthetic Organic Chemistry
 Abs. Jour. : Ref Zhur-Khimiya, No.11, 1959, No. 42352
 Author : Hach, V.; Protiva, M.
 Institut. : Not given.
 Title : Research on Synthesis of Estrogenic Hormones.
 VI. Synthesis of Hydrindane-1,4-dione.
 Orig. Pub. : Collect. Czechoslov. chem. commun., 1958, 23, No.10,
 1902-1911.
 Abstract : No abstract.
 See Ref Zhur-Khimiya, 1958, No.19, 64393

Card: 1/1

Country : Czechoslovakia G-2
 Category :
 Abs. Jour. : 45888
 Author : Hach, V. and Protiva, M.
 Institut. : Not given
 Title : Antihistamine Compounds. XLII. Derivatives of
 1-Aza-4-thia-2,3-5,6-dibenzocycloheptadiene
 (Homophenothiazine)
 Orig. Pub. : Collection Czechoslov Chem Commun, 23, No 10,
 1941-1946 (1958); Chem Listy, 51, 1909 (1957)
 Abstract : See RZhKhim, No 23, 1958, 77702.

Card: 1/1

COUNTRY : Czechoslovakia
CATEGORY :

G-2

REG. JOUR. : RZKhim, No. 5 1960 No.

17904

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : is extracted with 10% HCl, and the extract is made alkaline with NaOH and extracted with ether to give Id, yield 8.5 gms, mp 106° (from alc), picrate mp 204° (from alc), hydrochloride mp 187° (from alc). Using a procedure similar to that applied for Id, 2.4 gms of crude Ic are obtained from 5.2 gms Ib and 6 ml piperidine in 50 ml benzene; the crude product is converted directly to the picrate, mp 230° (from alc). All mp's were determined by the Kofler method and corrected.

CARD: 6/7

177

COUNTRY : Czechoslovakia
CATEGORY :

G-2

"APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810011-6"

AUTHOR :
INST. :
TITLE :

17904

ORIG. PUB. :

ABSTRACT : For Communication XLIV see RZhKhim, 1959, No 16, 57137.

A. Emr

CARD: 7/7

HACH, V.; KVITA, V.

Antibacterial agents. V. Preparation of 4-chlorophenyl
cinnamate. Czech. chem. 13 no.10:1497-1498 1964

HACH, V.

Local anesthetics. XI. Simple chroman derivatives. In German. Coll.
Cz.Chem. 24 no.9:3136-3140 S '59. (EEAI 9:5)

1. Leciva Praha, Werk 01, Dolni Mocholupy u Prahy.
(LOCAL ANESTHESIA) (CHROMAN)

TRINER, S.; HACH, V.

Sulfamethoxypyridazine (Spofadazin). Cesk. farm. 10 no.9:482-486
'61.

(SULFAMETHOXYPYRIDAZINE)

LIBOSVAR, J.; NEDBAL, J.; HACH, V.

Use of chromatography on a thin layer of aluminum oxide in controlling the classical synthesis of chloramphenicol. Cesk. farm. 11 no.2: 73-76 F '62.

1. Leciva, n.p., Dolni Mecholupy u Prahy.
(CHLORAMPHENICOL chem) (CHROMATOGRAPHY)

NEDBAL, J.; HACH, V.; LIBOSVAR, J.

Protracted effect of a polyethylene foil on the melting point of organic compounds. Cesk. farm. 11 no.6:320-322 J1 '62.

1. Leciva, n.p., Dolni Mecholupy u Prahy.
(POLYETHYLENES) (CHEMISTRY PHARMACEUTICAL)

HACH, V.; KVITA, V.; KOLINSKY, J.; LACEK, K.

CSSR

no academic degrees indicated

Drugs (Leciva), Dolni Měcholupy (for Hach, Kvita, Kolinsky). Research Institute
for Pharmacy and Biochemistry, Prague (for Lacek)

Prague, Collection of Czechoslovak Chemical Communications, No 1, 1963,
pp 266-271

"Contribution to Bromization in the Acetophenon Series"

(4)

HACH, V.; KVITA, V.; KOLÍNSKÝ, J.

Czechoslovakia

Lěčiva, Dolní Měcholupy, near Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 4, 1963, pp 855-861

"Antimicrobe Active Derivates of p-Dichloroacetamido-
benzoic Acid."

3

HACH,V.

An attempt at a modified synthesis of chloramphenicol. Cesk.
farm. 12 no.10:512-514 D'63.

1. Leciva, n.p., Dolni Mecholupy u Prahy.

HACH, V.; KVITA, V.; KOLINSKY, J.

Active antimicrobial derivatives of p-dichloroacetamidobenzoic acid. Coll Cz Chem 28 no.4:855-862 Ap '63. }

1. Leciva, Dolni Mechnolupy bei Prag.

HACH, V., KVITA, V.

Data on the preparation of 2-formyl-1-methylpyridinium oxime
iodine. Cesk. farm. 15 no.8:399-400 O '64.

1. Ieciva n.p. Praha.

CZECHOSLOVAKIA

ETA, V.; HACH, V.; KAKAC, B.; KOLINSKY, J.

Leciva, Dolni Mecholupy and Research Institute for Pharmacy and Biochemistry - (for all).

Prague, Collection of Czechoslovak Chemical Communications, No 11, November 1965, pp 3767-3771.

"Synthesis of ($\pm$)-4-methyllobeline."

(4)

HACHENSKI, W

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000617810011-6"

Journal of the Iron and Steel Institute
Vol. 176
Apr. 1954
Properties and Tests

Flaws Occurring in Locomotive Wheels. W. Hachowski and J. Goczal. *Prace Instytutow Mineralogii Hutniczej*, 1953, 8, (4), 173-188. [In Polish]. Flaws in the form of surface cracks parallel and perpendicular to the wheel axis have been observed in the treads of railway wagon wheels. The influence of heat-treatment and hydrogen content of the steel on the formation of these cracks was examined. The following recommendations are made after investigations: (1) Heats for the production of railway wheel tyres should be correctly deoxidized. (2) Tyres should be made from large ingots of appropriate cross-sectional area, forged first perpendicular, then parallel to the axis, and then rolled. (3) After rolling, the tyres should be slowly cooled in the temperature range 800-1000° C. (in the furnace). (4) The heat-treatment should be (a) heat for hardening to 820° C. then cool slowly to about 30° C. above Ac₁; (b) hold at that temperature to ensure even temperature through the whole cross-section; (c) quench the tyre for 2 to 3 min. in water at 35-50° C.; (d) transfer of the tyre quickly from quenching bath into annealing furnace, the temperature of which should not be lower than 300° C.; (e) anneal at 600-650° C. for 2 hr. and then cool in air.—V. G.

HACHLER, E.

HACHLER, E. Soviet ornithology in the service of the people. p. 113.

No. 1/4, 1953

SBORNIK. RADA C: SPISY FAKULTY LESNICKE

AGRICULTURE

Brno, Czechoslovakia

So: East European Accessions, Vol. 5, no. 5, May 1956

HA 00111, 1.

Machler, T. Hibernation of birds in the ponds of the Lodz and Valtice ponds during the 1952/53 winter. p. 106. OCHR'NI ZPR'VY. Praha. Vol. 10, no. 4, 1955.

SO: Monthly list of East European Accessions, (SEAL), LC, Vol. 4, No. 11, Nov. 1955, Uncl.

HACHLER, E.

The number of water birds on the Lednice ponds in terms of the international census. p. 59. (Ochrana Prirody, Vol. 12, No. 2, Mar 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

HACH, ERIKA

med Progress in the field of synthetic medicinals in the year
1955: Vladimír Hach and Erika Hach (Research Inst.
Pharmacy and Biochemistry, Prague). *Pharmazie* 11, 697-
716 (1956).—A review with 659 references. G. M. H.

2

HACHOVA, E.

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances
and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

Author : Miroslav Protiva, Jiri Jilek, Erika Hachova,
Ludvik Novak, Zdenek J. Vejdelek, Edita Adlerova.

Inst : Chemical Society (U.S.A.).

Title : Synthetic Models of Blood Pressure Decreasing
Alkaloids. I. 1-Aralkyl-1,2,3,4-Tetrahydronorhar-
mans.

Orig Pub: Chem. listy, 1957, 51, No 10, 1915-1922.

Abstract: The 1-aralkyl-1,2,3,4-tetrahydronorharmans des-
cribed in the paper are depicted by the general
structural formula A and characterized by a hypo-
tensive action similar to the action of reserpine.
Tryptamine (I) is prepared by the reduction of 3-
-indolylacetonitril by the action of Na in alcohol,

Card 1/11

59

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances
and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

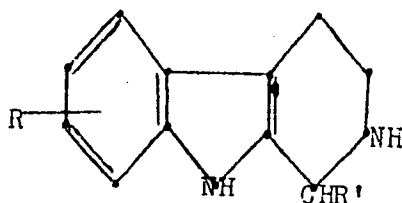
Abstract: or by Radney's catalyst under pressure, or with
LiAlH₄, yield 52 to 56%, boiling point 158°/0.5
mm, melting point 112 to 113° (from benzene); 5-
-methoxytryptamine, melting point 120 to 121° and
7-methoxytryptamine, melting point 134 to 135°,
are prepared according to Spath and Lederer (Spath
E., Lederer E., Ber., 1930, 63, 2102). (CH₃)₂C(
(C₆H₅)CONH, melting point 160°, is prepared by
hydrolyzing (CH₃)₂C(C₆H₅)CN with aqueous KOH, it
produces (CH₃)₂C(C₆H₅)COOH, melting point 77°, at
the continued hydrolysis in KOH. Hydrochloride

Card 2/11

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

Abstract:



yield 79%. 7-methoxytriptamide of PNA (XIII), melting point 101 to 102° (from aqueous CH₃OH),

Card 6/11

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

Abstract: was prepared of III by the method a, yield 60%. 1-(2-phenylethyl)-3,4-dihydronorharman (XIV) is prepared by boiling X 1 hour with POCl₃ in C₆H₆; picrate - melting point 189° (from CH₃OH). Unpurified XIV (a.6 g) is reduced with 10 g of Na in 120 ml of alcohol into 1-(2-phenylethyl)-1,2,3,4-tetrahydronorharman (XV), yield 1.7 g, melting point 75° (from CH₃OH); hydrochloride - melting point 258 to 259° (from CH₃OH); methanesulfonate (MS) - melting point 242 to 243°. Same as XIV, 6 g of unpurified 1-(3-phenylpropyl)-3,4-dihydronorharman (XVI) is obtained from 5 g of XI; picrate - melting point 164 to 165° (from CH₃OH). XVI reduced in the same way as in the case of XV produced 1-(3-phenylpropyl)-1,2,3,4-tetrahydronor-

Card 7/11

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances G
and Their Synthetic Analogues.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

Abstract: harman; MS - melting point 245 to 247°. Other 1,2,3,4-tetrahydronorharmans of the general formula A are prepared (if not indicated otherwise) by the cyclisation of the corresponding triptamide (same as XIV) and reduction of the produced raw 3,4-dihydronorharman (same as XV): A, R = H, R' = $\text{C}_6\text{H}_5\text{C}(\text{CH}_3)_2$ -, (from VIII), MS - melting point 225 to 226°; R = H, R' = 5,6,7,8-tetrahydro-1-naphthylmethyl, (from XIII), hydrochloride - melting point 247 to 253° (from aqueous alcohol), MS - melting point 239 to 241°; R = 6-OCH₃, R' = $\text{C}_6\text{H}_5\text{CH}_2$, (from VI), MS - melting point 249°;

Card 8/11

63

CZECHOSLOVAKIA / Organic Chemistry. Natural Substances G
and Their Synthetic Analogues.

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 61101.

Abstract: 157 to 159°, by cyclization of benzaltriptamine (Hoshino T., Kotake J., Liebigs Ann. Chem., 1935, 516, 76); hydrochloride - melting point 258 to 260°, MS - melting point - 250 to 251°; R = H, R' = $\text{C}_6\text{H}_5\text{CH}_2$ (XVII), (from IX or from I hydrochloride and $\text{C}_6\text{H}_5\text{CH}_2\text{CHO}$ (Hahn G., Ludewig H., Ber., 1934, 67, 2031), MS - melting point 258 to 260°; R = H, R' = 3,4-(CH₃O)₂C₆H₃CH (from I hydrochloride and 3,4-(CH₃O)₂C₆H₃CH₂COOH) (RZhKhim, 1956, 58170), MS - melting point 236-238°. 1-benzyl-norharman is prepared of XVII by dehydrogenation (Clemo G. R., Swan G. A., J. Chem. Soc., 1946,

Card 10/11

HACHOVA, E.

Country : CZECHOSLOVAKIA

G

Category: Organic Chemistry. Natural Compounds and Their
Synthetic Analogues

Abs Jour: RZhKhim., No 17, 1959, No. 61026

Author : Protiva, M.; Jilek, J.O.; Hachova, Ye.; Nevak, L.*

Inst : -

Title : Synthetic Models of Alkaloids Lowering Blood
Pressure. I. 1-Aralkyl-1, 2, 3, 4-Tetrahydronor-
garrans. II. Simple Models of "Reserpine"
With Cyclohexane Rings E.

Orig Pub: Collect. Czechosl. Chem. Commun, 1959, 24,
No 1, 74-82, 83-92

Abstract: See Ref. Zhur-Khimiya, 1958, No 18, 61101,
No 22, 741 67

*Vejdelek, Z.J.; Adlerova, E. II. Protiva, M.;
Jilek, J.O.; Hach, V.; Adlerova, E.; Mychajlyszyn, V.

Card : 1/1

SORBESCU, A.; PANAITESCU, D.; SOLOMON, P.; HACIG, A.; BELLU, C.

Helminthological studies in the Ostrov quarter of Bucharest.
Stud. cercet. inframicrobiol., Bucur. 6 no.3-4:605-619 July-
Dec. 1955.

(HELMINTH INFECTIONS, epidemiol.

in Rumania, distribution in Ostrov quarter of Bucharest)

NITULESCU, V.; POZSGI, N.; SORESCU, A.; PANAITESCU, D.; HACIG, A.;
SOLOWON, P.

Problems connected with helminthological research in mining
regions. Stud. cercet. inframicrobiol., Bucur. 7 no.1-2:
193-202 Jan-June 56.

(HELMINTH INFECTIONS, epidemiol.
in mining regions of Rumania)

(MINING
helminth infect. in miners of Rumania, epidemiol.)

LUPASCU, Gh., prof.; HAGIG, Alice, biolog; SOLOMON, Paula, biolog.

Efficiency of some methods of immunobiological diagnosis in
Trichinella spiralis infections. Microbiologia (Bucur.) 9
no.3:231-234 My-Je '64

1. Lucrare efectuata in Sectia de helmintologie din Institutul
de microbiologie, parazitologie si epidemiologie "Dr. I. Cantacuzino",
Bucuresti. Membru corespondent al Academiei Republicii Populare
Romane (for Lupascu).

HACIG, ALICE

SURNAME (in caps); Given Names

Country: Rumania

Academic Degrees:

Affiliation:

Source: Bucharest, Microbiologie, Parasitologie, Epidemiologie, Vol VI, No 5, Sep-Oct 1961, pp 439-454.

Data: "The Spread of Geohelminthiasis Through the Intermediary of Irrigated Plantations."

Authors:

LUPASCU, G., -Prof.- Department of Parazitology of F.P.S.M.F. [] (Catedra de Parazitologie F.P.S.M.F.).

SORESCU, Angela, -Dr.- Department of Parazitology of F.P.S. M.F.

PANAITESCU, D., -Dr.-, Department of Parazitology of F.P.S.M.F.

ANGELESCU, C., -Dr.-, Central "Sanepid" of the Capital (Sanepidul Central al Capitalei).

HACIG, Alice, Helminthology Section of the "Dr. I. Cantacuzino" Institute (Sectia de Helmintologie a Institutului "Dr. I. Cantacuzino").

SOLOMON, Paula, Helminthology Section of the "Dr. I. Cantacuzino" Institute.

LUPASCO, Gh.; SOLOMON, Paula; HACIG, Alice; CIPLEA, Al. Gh.; CIUREA, C.;
IANCO, Larissa.

Research on the role of the reticulo-endothelial system in immunity
in experimental trichinosis. Arch. Roum. path. exp. microbiol. 20
no.3:337-356 S '61.

1. Travail de l'Institut "Dr I. Cantacuzino" Laboratoires
d'Helminthologie, Histopathologie et Chimie parasitaire.
(RETICULOENDOTHELIAL SYSTEM physiology)
(TRICHINOSIS experimental) (IMMUNITY)

LUPASCU, Gh., prof.; SORASCU, Angela, dr.; PANAITESCU, D., dr.; HACIG, Alice, biolog; SOLOMON, R. I., biolog.

Investigations of the role of underground irrigation in the prevention of the pollution, with geohelminth eggs, of the soil of the irrigated cultivated land. Microbiologia (Bucur.) 9 no.3: 199-205 My-Je '64

1. Lucrare efectuata in Sectia de helmintologie din Institutul de microbiologie, parazitologie si epidemiologie "Dr. I. Cantacuzino", Bucuresti.

IUPASCO, Gh.; SOLOMON, Paula; HACIG, Alice

Contribution to the study of experimental infection with
Trichinella spiralis. Arch. Roum. path. exp. microbiol. 23
no.4:869-876 D '64.

1. Travail de l'Institut "Dr. I. Cantacuzino", Service d'
Helminthologie. Submitted January 11, 1964.

LUPASCO, Gh.; HACIG, Alice; SOLOMON, Paula; TINTAREANU, Justina

Research on the persistence of certain immunobiological reactions in *Trichinella spiralis* infections. Arch. Roum. path. exp. microbiol. 23 no.4:883-888 D '64.

1. Travail de l'Institut "Dr. I. Cantacuzino", Section d'Helminthologie. Submitted May 18, 1964.

LUPASCO, Gh.; SORESCO, Angela; PANAITESCO, D.; HACIG, Alice; SOLOMON, Paula

Research on the role of underground irrigation in the prevention of pollution of the soil of the irrigated crops with geohelminth eggs. Arch. Roum. path. exp. microbiol. 23 no.4:889-898 D '64.

1. Travail de l'Institut "Dr. I. Cantacuzino", Section d'Helminthologie. Submitted May 6, 1964.

LUPASCU, Gh., prof.; HACIG, Alice, biolog; TINTAREANU, Justina, dr.;
SOLOMON, Paula, biolog; SMOLINSKI, M., dr.

Diagnostic methods in trichinellosis. Value of immunobiological
diagnosis in the study of apparent foci in the Rumanian People's
Republic. Microbiologia (Bucur.) 10 no.3:233-244 My-Je '65.

IZAKOVIC, V.; HACIK, T.

Congenital adrenogenital syndrome in 2 sisters born from consanguineous parents. Bratisl. lek. listy 44 no.2:113-115 31 J1 '64.

1. Katedra vnutorneho lekarstva Slovenskeho ustavu pre doskolovanie lekarov v Trencine (veduci doc. MUDr. D. Dieska) a Endokrinologicky ustav Slovenskej akademie vied v Bratislave (riaditel MUDr. J. Podoba, C. Sc.).

HACIK, T.

Determination of pregnantriol in urine. Bratisl. Lek. Listy 42 no.3:
135-140 '62.

1. Z Endokrinologickeho ustavu Slovenskej akademie vied v Bratislave,
riaditel MUDr. J. Podoba, C. Sc.
(PROGESTATIONAL HORMONES)

HACIK, T.

Pathogenesis of congenital adrenal hyperplasia. Bratisl. lek. listy
42 no.8:507-511 '62.

1. Z Endokrinologickeho ustavu Slovenskej akademie vied v Bratislave,
riaditel MUDr. J. Podoba, C. Sc.

(ADRENAL CORTEX dis)

STARMA, L.; HACIK, T.

CSSR

Endocrinological Research Institute in Prague (Vyskumny ustav endokrinolo-
gicky), director: docent K. Silink, MD; Endocrinological Institute of
SAV in Bratislava (Endokrinologicky Ustav SAV); directori J. Podoba, MD,
C Sc.

Bratislava, Bratislavske Lekarske Listy, No 6, 1963, pp 330-334

"A Routine Test-Tube Method for the Determination of Urinary 17-Ketosteroids"

HACISKI, Eugeniusz, mgr inz.

General cargo motor vessel, I. Domeyko. Bud. okretowe Warszawa 8
no.1:8-10 Ja '63.

1. Centralne Biuro Konstrukcji Okretowych Nr 1, Gdansk.

HACISKI, Eugeniusz, mgr inż.

Prototype of the vessel B-516 m.s. "Domeyko" and its first
mercantile voyage. Bud okretów Warszawa 8 no.7:248-250
Jl '63.

1. Centralne Biuro Konstrukcji Okretowych nr 1, Gdansk.

HACIULESCU, T.

Calculating the Volume of Exploratory Drilling on the Basis of the
Reserve Increase of "Oil Well" Departments. Petrol Si Gaze (Petroleum and
Gases), #3:125: Mar 55

HACKEL, J.																																																																													
1ST AND 2ND ORDERS													PROCESSES AND PROPERTIES INDEX																																																																
Nitration products of starch. 1. Preparation of starch nitrates from potato starch. JULIUS HACKEL AND TADUSZ URBANSKI. <i>Roczniki Chem.</i> 12, 270-97 (in French 206-7) (1937). In nitrating potato starch with HNO_3 the following conclusions are drawn: An increase of the acid concn. causes an increase of the N content and of the viscosity of the nitrates. Stabilizing boiling of the nitrates has a detrimental effect inducing denaturation and an increase of the sol. in EtOH. The N content increases with increasing amt. of HNO_3 used. A rise of the temp. from 0° causes a lowering of the N content, of the yield and of the viscosity of the nitrates, accompanied by an increase of the EtOH sol. The changes are probably due to secondary oxidation reactions induced by the rise in temp. With increasing time of esterification the N content of the product rises rapidly at first, and then the increase becomes steadily smaller. The increase of the nitration period favors also the above secondary reactions, causing a drop of the yield, of the N content and of the viscosity of the product. Starch nitrates pptd. by H_2O show a better chem. stability than those pptd. by H_2SO_4. In nitrating starch with HNO_3-H_2SO_4-H_2O mixes. the best yield is obtained with mixes. containing equimolar amts. of H_2SO_4 and H_2O. Such mixes. showing a max. partial pressure of HNO_3 vapors exhibit a max. nitrifying power, and behave here in the same manner as in the nitration of cellulose. Mixts. poor in H_2SO_4 differ in their effect on starch from that on cellulose insofar as nitrated starch is probably sol. in them. J. WIRTELAK																																																																													
ASAC-3LA METALLURGICAL LITERATURE CLASSIFICATION																																																																													
<table border="1"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																										1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																																																				

HACKEL, J.

84

Nitration products of starch. II. Preparation of starch nitrates from starch from different sources. JULIUSZ HACKEL AND TADUSZ URBANSKI. *Rośliny Chem* 13, 221-225 in French (1967), 277-281, 27, 2, 1962. No marked differences were found in the N content of nitrates prepared from corn, rice, tapioca or potato starch, or from soil starch, in contradiction of the findings of Bell and Butler (c. 1, 4, 1954).

F. H. CHILTON

ALSO SEE METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDERS	
HACKEL, J. B B-II-11 Explosive properties of starch nitrates. J. HACKEL and T. Urmann (Forsch. Chem., 1934, 20, 309-321). A study of the explosive properties (I) of starch nitrates (II), as expressed by the velocity of detonation, the Pb block test, brisance, and the sensitivity to shock, indicates that (I) augment with the N content, and that (II) containing < 9% N have no practical val. as explosives, whilst the (I) of (II) containing > 9% N are comparable with those of $C_6H_5Me(NO_2)_3$ and $HO-C_6H_4(NO_2)_2$. R. T.					
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION					
SECTION 1		SECTION 2		SECTION 3	
SECTION 1		SECTION 2		SECTION 3	

1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
HACKEL, J. BC 2-3 Properties of the two modifications of glyceryl trinitrate. J. HACKEL (Rec. Chem., 1936, 10, 213-222).—The formation of the stable modification of glyceryl trinitrate, m.p. 13°, is favoured by presence of $C_6H_5(NO_2)_2$ or kieselguhr, whilst cellulose nitrate and Et and Ph carbamate favour crystallisation of the unstable form, m.p. 1-8°. many other substances are without effect. The stable form is more sensitive to shock than the unstable one, but the explosive power and velocity of detonation are the same for both forms. R. T.																			
ASSOCIATE METALLURGICAL LITERATURE CLASSIFICATION																			
1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									
1ST AND 2ND GROUPS										3RD AND 4TH GROUPS									

1ST AND 2ND ORDER		PROCESSES AND PROPERTIES INDEX		3RD AND 4TH ORDER	
HACKEL, J. d-1 BC Thermal analysis of binary systems containing glyceryl trinitrate. I, II. - J. HACKEL (Rec. Chem., 1938, 16, 323-332, 366-376). - I. PhNO_2, $m\text{-C}_6\text{H}_4(\text{NO}_2)_2$, $p\text{-C}_6\text{H}_4(\text{NO}_2)_2$, $o\text{-C}_6\text{H}_4(\text{NO}_2)_2$, $m\text{-C}_6\text{H}_4(\text{NO}_2)_2$, and $p\text{-C}_6\text{H}_4(\text{NO}_2)_2$; $\text{C}_6\text{H}_5\text{MeNO}_2$, $\text{C}_6\text{H}_5\text{Me}(\text{NO}_2)_2$, tetrayl, and hexogen yield simple eutectics with the two modifications of glyceryl trinitrate (I). II. Et contrainte forme an unstable 1:1 compound with the two modifications of (I); while binary systems of (I) with unanited hexamethylenetriamine, erythritol tetranitrate, penterythritol tetranitrate, NHPh, urethane, phenylurethane, phthalide, and Me contrainte consist of simple eutectics. The systems (I)-camphor and -glycol dinitrate were only partly studied, owing to the high η and low velocity of crystallization of the mixtures. R. T.					
438.51A METALLURGICAL LITERATURE CLASSIFICATION					
33000 11102110					
33000 11102110					

1ST AND 2ND ORDER										PROCESS AND PROPERTIES INDEX										1ST AND 2ND ORDER									
HACKEL, J. AC A-1 Thermal analysis of binary systems containing glyceryl trinitrate. III, J. HACKEL (Rocz. Chem., 1938, 18, 524—529).—The fusion diagrams do not suggest compound formation in the systems glyceryl trinitrate (I)-NH₂CO-NMe₂, -CO(NHMe)₂, -NH₂CO-NPh, -NH₂CO-NPhEt, and -NPhMeCO-NPhEt. (I) gives a 1:3 compound, f.p. 93.2°, with NH₂CO-NHMe, and a 1:2 or 1:3 compound, transition point 75°, with CO(NHMe)₂. H. T.																													
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																													
1ST AND 2ND ORDER										1ST AND 2ND ORDER										1ST AND 2ND ORDER									

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
HACKEL, J. 24 The preparation and properties of nitrated starch. T. Urbanski and J. Hackel. <i>Congr. intern. tech. chim. ind. Agr. & Comp. prod., Vth Congr., Budapest 2, 704-73 (1939); Chem. Zentr. 1940, 1, 1939-0.</i>—Earlier work (cf. C. A. 29, 6057; 31, 8027) is summarized and new expts. are reported. Starch preps. having different viscosities gave nitrostarches having almost the same viscosities. By fractionating nitrostarch from an acetone-water mixt. 3 fractions were obtained which had somewhat different N contents but almost the same viscosities. M. G. Moore																			
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION										RESEARCH TOPICS									
FROM DIVISION										FROM DIVISION									
SUBJECT										SUBJECT									

Distr: 4E2c(j)

5
2 May
1

✓ Theory of nitration T. Urbanski and J. Hackel (Inst. Technol., Warsaw). *Tetrahedron* 2, 306 (1968). cf. C.A. 28, 1808. O-Nitration of starch was examd. by nitration with mixts. of HNO_3 , H_2SO_4 , and H_2O , and curves relating const. N content in the product to mixt. compn. were plotted on a triangular diagram. Starch, like cellulose, can be nitrated by relatively dil. nitrating mixts. which do not contain NO_2^+ ions, indicating that undissoc. HONO_2 and NO_2^- , HNO_3 , or NO_2^- are also O-nitrating agents. The const. N curves have 2 branches of which the main branches follow the trend of the Sapozhnikov curves (cf. *Z. physik. Chem.*, 53, 226 (1906)) established for the nitration of cellulose and for the partial vapor pressure of HNO_3 . The shorter branches corresponding to mixts. rich in HNO_3 do not follow the trend. The deviation is probably due to the soly. of starch in these mixts. The higher the HNO_3 - H_2SO_4 ratio in the nitrating mixts. in the region from 90:10 to 100:0, the greater is the solvent power for starch and at any given HNO_3 - H_2SO_4 ratio the higher the N content of the product. Comparison of the action of mixts. rich in HNO_3 on cellulose and starch confirms the importance in nitration of the diffusion of the acids into the cellulose fibers.

CC
1/

C. R. Addinall

[Signature]

Distr: 4E3d

Improved ~~trotyl~~ preparation. Tadeusz Urbanski, Juliusz Hackel, Stanislaw Morka, Kazimiera Szyo-Lewanska, Tadeusz Siebodziński, and Wieslaw Witke (Katedra Technol. Organicznej II Politech. Warsaw). *Przemysl Chem.* 38, 551-4(1959).—Nitration of 1 mole toluene with a mixt. of 1.3 moles HNO_3 (d. 1.52) and 1.75 moles Ac_2O (10° , 2 hrs.) gave the mononitration product (I), not (or only slightly) contaminated with the meta isomer. I was further nitrated to di- and trinitrotoluene by usual methods. The purity of the raw trinitrotoluene so obtained was claimed to be sufficiently high to be used as an explosive without addnl. purification. Maria Michalek

8
2.BW(BW/JW)
1 JAS(NB)

P/002/60/000/004/002/003
A221/A126

AUTHORS: Hackel, Juliusz, and Serafinowa, Barbara
TITLE: Tadeusz Urbański

PERIODICAL: Nauka Polska, no. 4, 1960. 170 - 174

TEXT: A short biography of Professor Doctor Tadeusz Urbański is given. He was born in 1901 in Yekaterinodar (Russia). His studies commenced in 1919 at the Wydział Chemiczny Politechniki (Polytechnical Institute, Chemical Department) at Novocherkassk and were completed at the Polytechnical Institute in Warsaw in 1924. Still before completion of studies he was employed at the Górnośląska Fabryka Materiałów Wybuchowych (Explosives Plant) in Łaziska Górne. His first paper on explosions was published in 1926. He was sent for two years (1926 - 1928) to France where he worked in various chemical plants and upon his return he joined the Instytut Techniczny Uzbrojenia (Armament Technical Institute) in Warsaw. In 1929, he started lecturing chemical technology at the Polytechnical Institute in Warsaw. In 1932, Urbański became Doctor of Technical Sciences, in 1933 he passed university professorship examination (habilitation) and in 1936 he was appointed extraordinary professor at the Polytechnic in Warsaw. At this time he studied nitric acid organic

Card 1/3

P/002/60/000/004/002/003
A221/A126

Tadeusz Urbański

compounds. In 1940 he escaped from occupied Poland to France and later to England, where for 6 years he worked at the Research Department of the Ministry of Supply as a senior- and later as principal research officer. In 1946, Professor Urbański returned to Poland and was appointed professor for Organic Chemical Technology at the Polytechnic in Warsaw. For a short time he was the director of the Instytut Przemysłu Chemicznego (Chemical Industry Institute). In 1948, he commenced research on new medicaments. In 1950, he was elected Correspondent Member of the Polish Academy of Sciences and in 1956 Full Member of this institution. He is also member of several scientific associations in Poland and abroad. In 1957, he was elected committee member of the Międzynarodowy Unia Chemii Czystej i Stosowanej (Pure and Applied Chemistry, International Union) and in 1960 member of the East German Leopoldi Science Academy in Halle/Saale. He is member of Chemical Society in London, Society of Chemical Industry, Faraday Society, American Chemical Society and Commission Institute. In 1958, Doctor Urbański was appointed the Manager of the Zakład Syntezy Organicznej PAN (Organic Synthesis Department, Polish Academy of Sciences). He has 250 publications to his credit, among them the monography Teoria Nitrowania (The Theory of Nitration) and 3 vol of Chemia i Technologia Materiałów Wytuchowych (Chemistry and Technology of Explosives), published in 1955; English

Card 2/3

Wacław Urbański

F/002/60/000/004/002/003
A221/A126

edition of same is being prepared.

ASSOCIATION: Politechnika Warszawska, Katedra Technologii Chemicznej Organicznej II
(Department of Organic Chemical Technology II, Polytechnical Insti-
tute, Warsaw)

Card 3/3

HACKEL, Juliusz; URBANSKI, Tadeusz; KUTKIEWICZ, Wieslaw; STERNINSKI, Andrzej

Viscosity of mixtures $\text{HNO}_3\text{-H}_2\text{SO}_4\text{-H}_2\text{O}$. Chemia stosow 4 no.3/4:441-451
'60. (KEAI 10:9)

1. Katedra Technologii Chemicznej II Politechniki Warszawskiej.

(Viscosity) (Mixtures) (Nitric acid)
(Sulfuric acid) (Water)

HACKEL, J.; KUBOSZEK, R.

On the formation of two varieties of diethylene-glycol dinitrate.
Bul chim PAN 8 no.4:143-145 '60. (EEAI 10:9/10)

1. Department II of Organic Technology, Technical University, Warsaw.
Presented by T. Urbanski.

(Diethylene-glycol-dinitrate)

KUBOSZEK, Rudolf; KUTKIEWICZ, Wieslaw; HACKEL, Juliusz

Peracetic acid; studies on obtaining it. Przem chem 42
no.10:551-556 0'63.

1. Politechnika, Warszawa.

L 4 302-66 EWP(j)/T WW/RM/JW
ACC NR: AP6028780 SOURCE CODE: PO/0014/66/045/006/0321/0324

43
41B

AUTHOR: (Legocki, J.; Rodowicz, H.) Hackel, Juliusz

ORG: Institute of Organic Industry, Warsaw (Instytut Przemysłu Organicznego w Warszawie)

TITLE: Nitrate-alkyl esters of α, β -unsaturated acids. Part 2. Synthesis of 2-nitro-2, 2-bis(nitrate-methyl) ethanol

SOURCE: Przemysl chemiczny, v. 45, no. 6, 1966, 321-324

TOPIC TAGS: nitration, nitrate alcohol, methacrylic acid, polymerization, acrylic chloride, methacrylic chloride

ABSTRACT: A new nitrate-alcohol, 2-nitro-2, 2-bis(nitrate-methyl) ethanol was obtained by acid hydrolysis of 2-nitro-2, 2-bis(nitrate-methyl)ethyl acetate. 2-Nitro-2, 2-bis(nitrate-methyl)ethyl acetate was synthesized by three different methods: acetylation of the product of partial oxidative nitration of tri(hydroxymethyl)nitromethane (acetate III), nitration of 2-phenyl-5-nitro-5-hydroxymethyl-1, 3-dioxane acetate (acetate IIIa), as well as nitration of 2, 2-dimethyl-5 nitro-5-hydroxymethyl-1, 3-dioxane acetate (acetate IIIb). 2-Nitro-2, 2-bis(nitrate-methyl)-

Card 1/2

L 45202-66

ACC NR: AP6028780

2
ethanol was acylated with methacrylic and acrylic chlorides. 2-Nitro-2,2-bis-(nitrate-methyl)ethyl methacrylate was a polymerizable product of reaction with methacrylic chloride. Acrylic chloride gave a product which was not well identified and which underwent rapid and spontaneous polymerization. Polymers showed inflammable properties of high degree. Para-nitrobenzoate and 3,5-dinitrobenzoate of 2-nitro-2,2-bis(nitrate-methyl) ethanol were prepared. Absorption infrared spectra were obtained for 2-nitro-2,2-bis(nitrate-methyl) ethanol as well as for methacrylate and acrylate of 2-nitro-2,2-bis(nitrate-methyl)ethyl. Orig. art. has: 3 formulas and 3 tables. [Authors' abstract] [AM]

SUB CODE; 07/ SUBM DATE: 07Oct66/ ORIG REF: 004/ OTH REF: 001/

hs

Card 2/2

HACKENSELINER, H. A.

Prosekt. Wilhelminenspit., Wien. *Zur Pathologie der tumorösen neurogenen Hyperplasien (Neurome, Neurofibrome) und hyperplasiogenen malignen neurogenen Geschwülste des Magen-Darmtraktes. The pathology of tumour-like neurogenic hyperplasias (neuromata and neurofibromata) and malignant hyperplastic neurogenic tumours of the alimentary tract ACTA MORPH. ACAD. SCIENT. HUNG. (Budapest) 1953, 3/3 (325-352) Tables 6 Illus. 6

Report on 10 cases of neuromata and 2 cases of fibromata. Discussion of neurogenic tumours in the different parts of the alimentary tract, the predilection for sex and age, the clinical symptoms, the macro- and microscopical appearances. A simple origin of the neuromata is accepted and the changing fine structure of these growths is considered as a form of expression of the tissue relations between growth and the whole of the organ. A differentiation which goes further than the pure description of these tumours is, however, no practical or aetiological and genetic necessity. Author (VIII, 5, 16)

SO: Excerpta Medica; Section VIII Vol. 7 No. 11

HACKENSELINER, H.A.; TOPELMANN, I.

The endothelial surface of the carotid artery in rabbits
after double ligation. Acta morph. acad. sci. Hung. 13
no.4:359-375 '65.

1. Pathologisches Institut (Direktor: Prof. Dr. L.H. Kettler),
Humboldt-Universität Berlin, Rudolf-Virchow-Haus der Charité.
Submitted October 15, 1964.

RUMANIA/Chemical Technology. Chemical Products and Their
Applications. Leather. Fur. Gelatin. Tanning
Materials. Industrial Proteins.

H

Abs Jour: Ref Zhur-Khim., No 8, 1959, 29935.

Author : Havas, G., Minculescu, A., and Hacker, M.

Inst :

Title : The Dressing of Chrome-Tanned Stock.

Orig Pub: II-a Conf Tehn-Stint a Ind Usoare Piele, Cauciuc,
Sticla (Bucuresti), ASIT, 70-80 (1957) (in Rumanian)

Abstract: The authors have investigated various methods used
for the dressing of chrome-tanned stock in order to
determine optimum conditions for the lining, pickling,
tanning, neutralization, retanning, and finishing
of the stock. The possibility of the utilization of

Card : 1/2

HACKER, PETER

GOMORI, Pal; TAKACS, Lajos; KALLAY, Kalman; DUDAS, Gizella; BOHANSZKY, Ferencne;
HACKER, Peter

Effects of isolated cerebral anoxia on pulmonary circulation. Magy.
Tudom. Akad. Biol. Orv. Oszt. Kozl. 8 no.3:269-275 1957.

1. A Budapesti Orvostudományi Egyetem III. sz. Belklinikája.

(CEREBRAL ANOXIA, exper.

eff. of arterial anoxia on pulm. circ. in dogs (Hun))

(BLOOD CIRCULATION

pulm. eff. of exper. cerebral arterial anoxia in dogs (Hun))

HACKER, Tiberiu

✓ Contribuții la Studiul Stabilității Longitudinale a Avionului în Evoluțiile cele mai Defavorabile. Tiberiu Hacker. Stud. Cerc. Mec. Aplice, 1955, nr. 230-237. 10 refs. In Romanian. Study of the longitudinal stability of an aircraft under unfavorable conditions. Equations of motion are derived for trajectories of rectilinear motion, and the perturbation amplitude of the angle of incidence and of the angular velocity of pitch is determined.

DE *[initials]*

HACKER, T.

A criterion of longitudinal stability of an airplane in the time of the short period of perturbed motion for nonpermanent, horizontal, and rectilinear motion. p. 1635. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 5, no. 11, Nov. 1955

So. East European Accessions List Vol. 5, No. 9 September, 1956

HACKER, T..

Evaluation of the speed of amortization of perturbations in horizontal
rectilinear flight when the basic motion of the airplane is not permanent.
p. 1731. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti.
Vol. 5, no. 12, Dec. 1955.

So. East European Accessions List Vol. 5, No. 9 September, 1956

HACKER, T.

Contributions to the study of longitudinal stability of an airplane in most unfavorable evolutions. p. 268. Academia Republicii Populare Romine. Institutul de Mecanica Aplicata. STUDII SI CERCETARI DI MECANICA APLICATA. Bucuresti. Vol. 6, no. 3/4, July/Dec. 1955.

So. Fast European Accessions List Vol. 5, No. 9 September, 1956

HACKER, T.

A problem of the stability of airplanes for a finite-time interval.

P. 1345 (Academii Republicii Populare Romine. Comunicarile. Vol. 6, no. 12, Dec 1956
Bucuresti, Rumania)

Monthly index of East European Accessions (EFAI) LC. Vol. 7, no. 2,
February 1958

SECRET

Distr: 4F1

✓ 4675. Hecker, T., On a problem of partial stability of aircraft
(In Russian), Acad. Repub. Pop. Romane, Rev. Mecan. appl. 2, 2,
1957.

Classical stability criteria, such as the Routh-Hurwitz criterion,
do not give indications concerning the separate behavior of kinematic
parameters. If one of the parameters grows larger, these
criteria indicate instability even in the case when the behavior of
this parameter is of no importance to the problem.

With this idea in mind, author presents a procedure to find conditions
which should insure the damping of the deviation of the incidence
angle, or that of the rate of pitch. Expressions are given
which relate the initial value of the disturbance to the time interval
within which a certain previously given damping velocity is insured
for the discussed kinematic parameters.

Staff, Revue de Mécanique Appliquée
Acad. Repub. Pop. Romane, Rumania

HACKER, T.

Behavior of a plane in flight through an agitated atmosphere. p. 983.

Academia Republicii Populare Romine. Institutul de Mecanica Aplicata.
STUDII SI CERCETARI DE MECANICA APLICATA. Bucuresti, Rumania. Vol. 8, no. 4,
1957.

Monthly list of East European Accessions (EEAI) IC, Vol. 8, no. 8, Aug. 1959

Uncl.

80412

RUM/8-59-1-3/24

1,4000

AUTHOR: Hacker, T.

TITLE: On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

PERIODICAL: Studii si Cercetări de Mecanică Aplicată, 1959, Nr 1, pp 70 - 76 (RUM)

ABSTRACT: This article deals with the behavior of aircraft in an atmosphere of repeated squalls. The classical theory of aircraft stability considers only the case of isolated disturbances. The practical flight necessities of today require a study of repeated disturbances acting during the disturbed motion. In a previous article [Ref 1] the author already indicated a method for this case. The evaluation obtained was only a general one, the required degree of damping referring to the sum of the deviation modulus. The practical problem consists in establishing how small the initial disturbances and the disturbing forces with a continuous action should be in order to guarantee the required degree of damping. Based on the Liapunov function the author presents a solution of this problem. Since the roots of the characteristic equation of the linear homogeneous system have real negative parts, to every negatively defined square form U correspond a positively defined square form W, and one single part, the derivative of which in ratio with the time taken in

Card 1/6

80412

RUM/8-59-1-3/24

On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

virtue of the homogeneous linear system is identically equal to the function U . The coefficients of the square form $W(x, y, z, u)$ can be determined from the condition that dW/dt of the homogeneous linear system should be equal with the square form U for all values of the functions x, y, z, u . It is also required that the deviations x, y, z, u should never, after the initial moment t_0 , exceed the constant quantities $\epsilon_x, \epsilon_y, \epsilon_z, \epsilon_u$, taken from the factors of security, comfort, etc. The deviations of the angle of attack (ϵ_y) and of the longitudinal angular speed (ϵ_u) should never exceed a certain limit. The deviations of the flying speed (ϵ_x) and of the rocking angle (ϵ_z) can vary within wider limits. The purpose of the aircraft (passenger, military, etc.) has to be considered, too. The author then presents a rational calculation, analogous to that used by I.G. Malkin [Ref 2] for the demonstration of the stability theorem in case of disturbances with continuous action. Starting with the ellipsoid $W(x, y, z, u) = c^2$, the author establishes 2 inequalities:

$$W(x_0, y_0, z_0, u_0) < c^2 \quad (a)$$

$$\left\{ U(x, y, z, u) + \left| \frac{\partial W}{\partial x} \right| \rho_x + \left| \frac{\partial W}{\partial y} \right| \rho_y + \left| \frac{\partial W}{\partial u} \right| \rho_u \right\}_W = c^2 < 0 \quad (b)$$

Card 2/6

80412

RUM/8-59-1-3/24

On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

which supply the required relations. Air squalls are considered as repeated disturbances. In this case the constants η_x , η_y , η_u and ρ_x , ρ_y , ρ_u are evaluated by the functions of the speed of air currents. The horizontal and vertical components of the air current speed in case of a nondisturbed flight are notated with $\hat{v}_h$ and $\hat{v}_v$. Supposing that the nondimensional values $\hat{v}_h$ and $\hat{v}_v$ are small enough to be neglected in a series development of the nonlinear power terms, then are $\hat{v}_v \approx \Delta\alpha_{\max}$ and $\hat{v}_h = \Delta V_{\max}$ and the following relations can be established:

$$\begin{aligned} \eta_x = \rho_x &= \left| c_x \hat{v}_h + \frac{\partial c_x}{\partial \alpha} \hat{v}_v \right|, \\ \eta_y = \rho_y &= \left| c_z \hat{v}_h + \frac{\partial c_z}{\partial \alpha} \hat{v}_v \right|, \\ \eta_u = \rho_u &= \left| \frac{\hat{m}}{i_B} \left(c_m \hat{v}_h + \frac{\partial c_m}{\partial \alpha} \hat{v}_v \right) \right|. \end{aligned} \quad (4)$$

In case the components $\hat{v}_h$ or $\hat{v}_v$ are not small compared with the non-disturbed flying speed V , the same relations remain valid, however, the respective maximum values will be taken for the aerodynamical coefficients and their partial derivatives. The relations (a) and (b) are used as

Card 3/6

80112

RUM/8-59-1-3/24

On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

follows: x_0, y_0, u_0 in (a) are replaced by η_x, η_y, η_u and z_0 can have an arbitrary value. In (b) the minimum module value of the function U on the ellipsoid $W = c^2$ is taken, and the constants ρ_x, ρ_y, ρ_u are substituted by the expressions (4). Changing now the inequality signs in (a) and (b) into equality signs, the required admissible limits for φ_v and φ_h are obtained. In case of simplified vertical squalls ($\varphi_h = 0$) and a constant speed, the problem can be treated by the simplified theory of the quick disturbance motion and the equation system can be reduced to an equation of the second order:

$$\begin{aligned} \frac{dy}{dt} &= a_{22}y + u + R_y(t, y, z, u) \\ \frac{du}{dt} &= a_{42}y + a_{44}u + R_u(t, y, z, u) \end{aligned} \quad (5)$$

The characteristic equation of this system, without the addings R_y and R_u , admits in case of statically stable aircraft a pair of complex conjugated roots. The real part of the roots, notated with μ ($\mu = 1/2 (a_{22} + a_{44})$), is negative. The constants $\eta_y, \eta_u, \rho_y, \rho_u$ depend only from φ_v , having the following shape:

Card 4/6

80412

RUM/8-59-1-3/24

On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

$$\eta_y = \rho_y = a\phi_v,$$

$$\eta_u = \rho_u = \sigma\phi_v$$

in which "a" represents the curve shape $c_z = f(\alpha)$ and σ a value proportional to the coefficient of the static stability

$$(\sigma = \frac{m}{I_B} \frac{\partial c_m}{\partial \alpha}).$$

The coefficients of the square form $W = \alpha_{22}y^2 + 2\alpha_{24}yu + \alpha_{44}u^2$ can be determined from $U = \frac{dW}{dt} = -(y^2 + u^2)$. The author then derives the vertical component from the condition (b):

$$\phi_v < \left\{ \frac{(y^2 + u^2) \min}{a|\alpha_{22}y + \alpha_{24}u|_{\max} + \sigma|\alpha_{24}y + \alpha_{44}u|_{\max}} \right\}_{W=c^2} \quad (6)$$

and establishes a practical calculation formula as follows: Starting with the minimum of the $y^2 + u^2$ sum, he derives the approximate formula for the determination of the admissible limit of the vertical squalls speed:

$$v_{v \text{ lim}} = \frac{2W(\epsilon_y, \epsilon_u)}{[V(\alpha_{22} - \alpha_{44})^2 + 4\alpha_{24}^2 + \alpha_{22} + \alpha_{44}][a\alpha_{22} + \sigma|\alpha_{24}|]\epsilon_y + (a|\alpha_{24}| + \sigma\alpha_{44})\epsilon_u} \quad (7)$$

Card 5/6

20412

RUM/8-59-1-3/24

On the Longitudinal Stability of Aircraft in Case of Repeated Disturbances

In case of vertical squalls acting on the aircraft as repeated disturbance, a good damping is required which can be obtained by large absolute values of the rotation derivatives

$$\left(\frac{\partial c_m}{\partial \dot{\alpha}} \text{ and } \frac{\partial c_m}{\partial \ddot{\alpha}} \right).$$

A large value of the coefficient of static stability $\left(\frac{\partial c_m}{\partial \alpha} \right)$, supplies no dynamic stability in a quick phase of the disturbed motion. There are 2 references, 1 of which is Rumanian and 1 Russian.

SUBMITTED: October 15, 1958

Card 6/6

HACKER, T.

Stability of an airplane with a reduced number of freedom degrees. p.655

STUDII SI CERCETARI DE MECANICA APLICATA. Academia Republicii Populare Romine
Bucuresti, Rumania
Vol. 10, no.3, 1959

Monthly List of East European Accessions (EEAI) LC., Vol. 9, no.1, Jan. 1960
Uncl.

10 4000

26094

R/008/00/003/006/008

AGS/A126

AUTHOR: Hacker, T.

TITLE: On the applicability limits of a stability theory to the partially controlled motions of an aircraft.

PERIODICAL: Studii și cercetări de mecanică aplicată, no. 5, 1960, 1,581 - 1,585

TEXT: In a previous article [Ref. 1: Stabilitatea avionului cu un număr redus de grade de libertate. Studii și cercetări de mecanică aplicată, no. 10, 3 (1959)] the author has shown that in case of partially controlled motions of an aircraft, the distributed motion can be studied in the basis of a system of differential equations in which appear only the non-controlled kinematic parameters. This system was called the auxiliary system. The mathematical shape of the partially controlled motion is then described as follows: Considered is the system: $\frac{dx}{dt} = X(t; x, \xi)$ and $\frac{d\xi}{dt} = \Xi(t; x, \xi)$, (1) with $X(t; 0, 0) = 0$ and $X(t; x, 0) = \bar{X}(t, x)$ representing the disturbed motion of partially controlled aircraft; x and ξ represent the vectors, respectively the m and k dimensionals, the components of which are the deviations of the free and controlled kinematic parameters;

Card 1/3

On the applicability limits of a stability theory....

R/008/61/000/006/005/008
A131/A126

X and Ξ are vectors of the same dimensions as x and ξ , respectively, having as components some functions, being generally nonlinear, of the m components of x and of the l components of ξ , as well as of the independent variable. It is supposed that the stabilizing intervention stops as soon as all deviations of the controlled parameters are eliminated ($\xi = 0$) and reappears only in case that at least one of these deviations receives a value other than 0; i.e., if the system $\frac{dx}{dt} = X'(t, x, \xi)$, and $\frac{d\xi}{dt} = \Xi'(t, x, \xi)$, (2) represents the equation system of the free disturbed motion, then $X'(t, x, 0) = X(t, y, 0) = X(t, x)$. No. 1 Definition: The simple solution of the auxiliary system $\frac{dx}{dt} = X(t, x)$, (3) is stable in relation to $\xi(t)$ in case there are for every $\varepsilon > 0$ two functions $\delta(\varepsilon)$ and $\eta(\varepsilon)$ in such a way that: $|\xi(t)| < \delta(\varepsilon)$ for $t \geq t_0$ and $|x_0| < \eta(\varepsilon)$, then $|x(t)| < \varepsilon$ for $t \geq t_0$, x(t, t₀, x₀) being the solution of the $\frac{dx}{dt} = X[t, x, \xi(t)]$ system, corresponding to the initial condition x(t₀, x₀). No. 2 Definition: The simple solution of the auxiliary system is asymptotically stable in relation to $\xi(t)$, for which $\lim_{t \rightarrow \infty} x(t, t_0, x_0) = 0$ if the conditions of the No. 1 Definition are satisfied and the relation $\lim_{t \rightarrow \infty} x(t, t_0, x_0)$ takes place. Theorem: If the simple solution of the auxiliary system is uniformly asymptotically stable, it is asymptotically stable in relation to $\xi(t)$. The evaluation of the δ quantity

Card 2/3

On the applicability limits of a stability²⁶⁰⁹⁴ theory.... R/008/60/000/006/006/008
A231/A126

(No. 1 Definition) in function of the 6 positive values requires a special interest in case of applications. The author demonstrates an evaluation process of this quantity. There are 2 Soviet-bloc references.

SUBMITTED: May 12, 1960

Card 3/3

34913

R/003/62/000/001/003/007
D272/D304

10.1740

AUTHOR: Hacker, T.

TITLE: On the flight qualities of partially controlled VTOL
aircraft (without an automatic pilot)

PERIODICAL: Mecanică aplicată, no. 1, 1962, 31-46

TEXT: The flight qualities of vertical take-off and landing aircraft are examined, after first discussing the need to take into account the gyroscopic effect of the rotating organs of the engines and to study the perturbed movement for certain specific regimes (base motions), characterized by small or zero flight velocities. The latter requires investigation of the perturbed motion of the dynamic system - aircraft-pilot (human or automatic). It is shown that in the case of hover flight, the dominant forces are the traction by the engines and the forces and mass moments of inertia. Disturbed motion about the aircraft center of gravity is studied, assuming that the motion parameters of the center of gravity itself are constrained. This is useful for determining the

Card 1/2